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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/150,799	09/10/98	LANGHAM D	14242/00201

HM12/0707

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EXAMINER	
KIMBALL,M	
ART UNIT	**PAPER NUMBER**
1649	3

DATE MAILED: 07/07/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

PTO-90C (Rev. 2/95)

1- File Copy

Office Action Summary

Application No.	Applicant(s)
09/150,799	Langham
Examiner	**Group Art Unit**
Melissa Kimball	1649

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-46* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-46* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

This application should be examined for errors. For example, in claims 10, 30 and 34 "progency" should be changed to --progeny--.

Claim Objections

1. Claim 38 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim must depend upon other claims in the alternative.. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

2. Claims 1-46 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The invention employs the sesame lines designated "Sesaco 22", "Sesaco 23", "Sesaco 24", "19A" and "11W". Since the *Sesamum indicum* seed is essential to the claimed invention it must be both known and readily available to the public or can be made or isolated without undue experimentation. If the sesame seed is not so obtainable or available, the requirements of 35 USC § 112 may be satisfied by a deposit of seed that when planted will produce each of the sesame lines "Sesaco 22", "Sesaco 23", "Sesaco 24", "19A" and "11W". The specification does state

that a deposit of "Sesaco 22", "Sesaco 23", "Sesaco 24", "19A" and "11W" was made at the American Type Culture Collection (page 6 and 22); however, the deposit of these lines has not been perfected and the terms of their availability has not been described. The specification does not disclose a repeatable process to obtain the exact sesame lines and it is not apparent if the seed is both known and readily available to the public. Thus, a perfected deposit may be used for enablement purposes. If the deposit is made under the terms of the Budapest Treaty, then an affidavit or declaration by applicants, or a statement by an attorney of record over his or her signature and registration number, stating that the specific strain has been deposited under the Budapest Treaty and that the strain will be irrevocably and without restriction released to the public upon the issuance of a patent, would satisfy the deposit requirement made herein.

If the deposit has not been made under the Budapest Treaty, then in order to certify that the deposit meets the criteria set forth in 37 C.F.R. 1.801-1.809, applicants may provide assurance of compliance by an affidavit or declaration, or by a statement by an attorney of record over his or her signature and registration number, showing that

(a) during the pendency of this application, access to the invention will be afforded to the Commissioner upon request;

(b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;

(c) the deposit will be maintained in a public depository for a period of 30 years or 5 years after the last request or for the enforceable life of the patent, whichever is longer;

(d) a test of the viability of the biological material at the time of deposit (see 37 CFR 1.807); and,

(e) the deposit will be replaced if it should ever become inviable.

For each deposit made pursuant to these regulations, the specification shall be amended to contain (see M.P.E.P. § 1.809):

(1) The accession number for the deposit;

(2) The date of the deposit:

(3) A description of the deposited biological material sufficient to specifically identify it and to permit examination; and,

(4) The name and address of the depository.

3. Claims 29-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 29 and 33 are vague and indefinite in the recitation of "ATCC accession number _____ and _____" and the cultivar designations "Sesaco 22", "Sesaco 23", "Sesaco 24", "19A" and "11W".

The designations "Sesaco 22", "Sesaco 23", "Sesaco 24", "19A" and "11W" are arbitrary and create ambiguity in the claims. For example, the sesame seed and plants disclosed in this application could be designated by some other arbitrary names or the assignment of the names "Sesaco 22", "Sesaco 23", "Sesaco 24", "19A" and "11W" could be arbitrarily changed to designate another sesame seed or plants. If either event occurs, one's ability to determine the metes and bounds of the claim would be impaired. See *In re Hammack*, 427 F.2d 1378, 1382, 166 USPQ 204, 208 (CCPA 1970).

Amending the independent claims so as to refer to the ATCC deposit accession number of the deposited seed of these sesame lines would obviate this rejection.

4. Claims 33-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 33 is indefinite in the recitation of "can be classified into the same phenotype group". Classification is notoriously controversial among botanists. One plant breeder may come to a different conclusion than another. The claim should clearly state which physiological and morphological characteristics will be employed in the determination of the classification of sesame groups. Otherwise a skilled artisan could not determine the meaning of the claim.

Claims 34-36 fail to clarify the classification method of the claim from which they depend.

5. Claims 37-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 37 is vague in the recitation of "moderate to good capsule placenta attachment". It is unclear how strong the attachment must be to fall within the claimed phenotype and it is also unclear how this would be determined.

Claims 38-44 are included in the rejection for failing to correct the deficiency of the claim from which they ultimately depend.

6. Claims 41 and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear if claims 41 and 44 read on the F_1 progeny, the F_2 progeny or both generations. Clarification is required so that a skilled artisan can determine the metes and bounds of the claims.

7. Claims 45-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 45 is vague and indefinite in the term "natural weathering". The claim reads broadly on any conceivable environment including naturally occurring severe, undesirable conditions in which seed would be dislodged from a plant typically classified as indehiscent. The rate at which the capsules are agitated in the claimed methods should be specified quantitatively rather than qualitatively to clearly define the claimed process.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 2, 4, 6, 8, 10, 12, 34, 36, 40, and 43 are rejected under 35 U.S.C. 102(a) as being anticipated by or in the alternative obvious over Day (April, 1998).

Claims are drawn to the progeny of various sesame lines. The phenotype of the progeny is not specified.

Day teaches sesame lines 8 (Kobayashi 393) and 17 (Kobayashi TK27) which have "good seed retention" and "moderately high capsule strength and elasticity" (fifth page of document submitted by applicant; please note that the document appears to be missing at least one page as the first page of text begins mid-sentence).

The progeny of the claimed sesame plants would be the same as or indistinguishable from, the plants taught by Day. The claims have no limitations regarding the phenotype of the progeny and therefor the plants taught in the prior art are the same as those claimed.

9. Claims 2, 4, 6, 8, 10, 12, 34, 36, 40, and 43 are rejected under 35 U.S.C. 102(a) as being anticipated by or in the alternative obvious over Bakheit et al.

Claims are drawn to the progeny of various sesame lines. The phenotype of the progeny is not specified.

Bakheit et al. teach F_1 and F_2 plants obtained crosses through crosses between dehiscent and indehiscent cultivars to(page 28-29). The progeny of the claimed sesame plants would be the same as or indistinguishable from, the plants taught by Bakheit et al. The claims have no limitations regarding the phenotype of the progeny and therefor the plants taught in the prior art are the same as those claimed.

10. Claims 37-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bakheit et al.

Claims are drawn to methods of breeding non-dehiscent sesame and the plants generated therefrom.

Bakheit et al. teach crosses between dehiscent and indehiscent cultivars to obtain F_1 hybrids and the subsequent production of backcross or F_2 plants (page 28-29). They studied the inheritance of capsule dehiscence as well as other traits in the offspring and they teach that indehiscence is recessive trait (page 31). They teach that cross five, between dehiscent and indehiscent cultivars, yielded more seed than the parent lines (page 36-37) and produced a high genetic advance (page 38-39).

Bakheit et al. do not teach selecting for capsule placental attachment.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to cross indehiscent and dehiscent lines of sesame to produce F_1 and F_2 plants because Bakheit et al. teach a method of doing so and they teach that the offspring had heterosis. A skilled plant breeder would be motivated to include strong capsule placental attachment as a selection criteria in the interest of preventing seed loss from the sesame seed crop.

11. Claims 37-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Delgado et al.

Claims are drawn to methods of breeding non-dehiscent sesame and the plants generated therefrom.

Delgado et al. teach that much of the low yield of sesame seed crop can be attributed to seed loss from capsule dehiscence (page 208) and that crosses between dehiscent and indehiscent cultivars produced hybrids with high heterosis (page 209, Abstract, at least).

Delgado et al. do not teach selecting for placental attachment in the Abstract (examiner is awaiting translation of the full text).

At the time the invention was made it would have been obvious to a person of ordinary skill in the art that crossing indehiscent and dehiscent lines would produce plants with hybrid vigor, as taught by Delgado et al. A skilled plant breeder would recognize that sesame seed is lost during harvest, as taught by Delgado et al., and that stronger attachment to the placenta would lessen seed loss.

12. Claims 37-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bakheit et al. and Delgado et al. in view of Day.

Bakheit et al. teach crosses between dehiscent and indehiscent cultivars to obtain F_1 hybrids and the subsequent production of F_2 plants, as discussed above. They teach that the cross between dehiscent and indehiscent cultivars yielded plants with high heterosis. Delgado et al. teach seed loss from capsule dehiscence and that crosses between dehiscent and indehiscent cultivars produced hybrids with high heterosis, as discussed above.

Bakheit et al. and Delgado et al. do not teach selecting for placental attachment.

Day teaches that the anatomy of the sesame capsule influences seed retention and suggests breeding for particular morphological traits that should lead to reduction in seed loss. Day teaches that seed retention is the primary concern of sesame growers.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to cross indehiscent and dehiscent sesame lines to obtain lines with heterosis, as taught by each of Bakheit et al. and Delgado et al., and to further consider the capsule morphology in the selection steps, as taught by Day, to obtain plants that minimize seed loss.

Prior Art

Langham (1998, "BS" on form 1449) teaches that the claimed line 'Sesaco 22' was released in 1997 or earlier (page 4). While the applicant's publication was published less than a year before applicant's filing date, the nature of the release must be clarified for the record. Was the sesame line 'Sesaco 22' available to plant breeders in 1997 or earlier? Was it a commercial or experimental release? Any protection of this cultivar under the Plant Variety Protection Act or other should be disclosed.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Kimball whose telephone number is (703) 305-6999. The examiner can normally be reached on weekdays from 8:30 am to 6 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith, can be reached on (703) 308-3909. The fax phone number for this Group is (703) 308-4242. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

July 1, 1999
MLK

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